

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

March 31, 2008

TO: Internal File

THRU: James D. Smith, Permit Supervisor *JS 04/21/08*
Steve Christensen, Environmental Scientist III *SCC*

FROM: Priscilla Burton, CPSSc, Environmental Scientist III *PWB by an*

RE: PHC Update Pillar Splitting, Consol Energy Company, Emery Deep Mine,
C/015/0015, Task ID # 2951

SUMMARY:

The information provided is recommended for incorporation into the Mining and Reclamation Plan to support the administrative approval dated April 11, 2007 for full extraction of the **14th West** panel. The Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76 indicates that the irrigated cropland above the 14th West, 1st North and the 6th West panels is prime farmland.

The information was previously reviewed as Tasks 2807, 2794, 2821, and 2885. In addition to the revised PHC and Chapter VI (hydrology), the Task 2885 submittal, received December 6, 2007, and amended on March 21, 2008, describes full extraction and planned subsidence of the **14th and 15th west panels and 8th North Main; 4th E Mains, and the 15th W, 6th W, and Zero North panels.** The application updates surface ownership information and provides one roof and one floor analysis.

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TECHNICAL ANALYSIS:

GENERAL CONTENTS

IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

Analysis:

The merger of IC Coal Inc. and Consolidation Coal Co. occurred on 8/30/2005 and is reflected in the organizational chart provided in the 2005 Annual Report. Appendix 1-1 of the MRP should be updated with current information in 2008.

Appendix 1-2 and Plate I-1 Surface Ownership Map were revised to reflect recent ownership transfers in R. 6 E. T. 22 S. Sections 19, 20, 21, 28, 29. Plate I-1 shows the realignment of County Road 907 [EC 907] in Sec 29 that occurred in 2000 which is used as the property boundary line between Carter and Robertson. EC 906 is labeled on Plate I-1 for reference.

Findings:

The approved Mining and Reclamation plan meets the requirements of the Regulations.

OPERATION PLAN

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-731.

Analysis:

Subsidence Control Plan

Plate V-5 shows the mining panels. The Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76 indicates that the irrigated cropland above the 14th West and the 6th West panels is prime farmland. Planned subsidence, as a result of full extraction is shown on Plate V-5 and includes a general lowering of the land by three feet. Since the panels lie diagonally to the direction of the irrigation, there may be reduced flow to the southern 9 acre section of D.U. Company's irrigated land.

The federal coal in lease U5287 (issued 1971) encompasses approximately 450 – 500 acres as shown on Plate IV-2 UG Operations Plan and VI-6A Historic and Planned Mining Sequence. The 14th West panel runs beneath 68 acres of privately held surface in Sec. 29, T. 22 S., R. 6 E., belonging to Osbrun Bret Carter. The panel runs on a NW to SE diagonal beginning in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ through the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 29.

The Permittee has also outlined the 15th West panels and the 8th North Main for full extraction, Plate VIII-1 Vegetation and Landuse Map. Landowners on the surface of the 15th west and 8th North Main include Russell H. Odle and Morgan Robertson. When the 15th West and 8th North Main are undermined, the surface features that may be affected by subsidence include the county road and a water supply line.

The First North area is also shown as Prime Farmland in Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76. Figure XIII-1a shows that within the 160 acre 1st North federal lease, there are approximately 50 acres of prime farmland soils, that is one-third of the soil is prime farmland, if irrigated. Communication with the NRCS on December 12, 2006, confirms that there are approximately forty-eight irrigated acres within the First North federal lease at this time.

Zero North panel in federal lease U-50044 runs beneath Consol owned rangeland surface. The irrigation ditches that are currently in disrepair, as described in App. V-5, attest to the fact that this land was historically farmed and irrigated.

The 6th West panel in federal lease U-50044 runs beneath 9.1 acres of a larger, irrigated D.U. Company field and County Road 915 as well as Consol owned rangeland surface, County Road 915, and a power line (App. V-5, Pre-Subsidence Survey and Plate I-1).

The 4th East Mains parallels Christiansen Wash and is beneath Consol surface and County Road 907 and a power line.

Roads are labeled and other features are shown on Appendix V-5 Figure 1. and Plate V-5. The Permittee has notified the County and has obtained an agreement for subsidence mitigation with the County. Chapter V, page 40 confirms that the required pre-subsidence landowner notification letters to landowners and irrigation companies were sent and are on file with the Division.

In accordance with R645-301-525.110, the Permittee has provided a map showing the location or renewable resource lands, and narrative describing the potential for material damage or diminished value of the renewable resource lands. **The term renewable resource lands is defined by R645-100, includes agricultural lands, croplands, and grazing lands.**

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- Appendix V-4 states that there are 24 acres of irrigated cropland within the 132 acre area surveyed in April 2007. Figure V-4 Figure 1 provided with the April 2007 survey does not indicate the location of the 24 acres of cropland, however, Figure 1 and 2 included in Appendix VIII-3 indicate the location of cropland.
- Appendix V-5 Figure 1 provides a pre-subsidence survey for the 4 East Mains, 6th West and 0 North.
- Plate VI-3 shows the location of irrigated land.
- Previous communication with the NRCS confirms the designation of Penoyer soils as prime farmland in the fee portion of the 1st North IBC. (see App XII-1). Recent mapping by the NRCS has determined that the soils having potential for prime farmland within the IBC are Minchey loam, Penoyer loam, Ravola loam, and Tusher fine sandy loam, when irrigated.
- Subsidence movement between 3 and 10 ft is projected with the area shown on Plate V-5. Ground movement will be monitored (Sec V.B.1).

Findings:

The information provided in the proposed amendment meets the requirements of R645-301-332.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

Chapter V.A. 4 of the MRP describes roof and floor analyses.

Chapter V.A. 4 contains the 2007 analysis of the 1st North roof and Zero North floor, representing federal lease U-50044. According to the cover letter provided with Task 2951, the samples were in different panels, but were 200 ft. apart. Samples were analyzed by Geochemical Testing, David Glessner, Laboratory Manager. Electrical Conductivity and SAR analyses were not conducted and no sample remains to conduct those tests.

The 2007 1st north roof sample is potentially acid forming, due to concentrations of pyrite and virtually no neutralizing, carbonate content. The pH was 6.4. No analysis of SAR or EC was provided.

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The Zero North floor sample did not have much more carbonate than the 1st north roof sample, but it had significantly less pyritic sulfur and is therefore less likely to produce acid. The pH of the floor was 6.9. No analysis of SAR or EC was provided.

Since we have limited roof and floor analysis available and are missing several parameters from those samples that we do have, further geologic testing will be made available as mining progresses (personal communication with John Gefferth, 3/31/2008).

Findings:

The information provided meets the minimal requirements of R645-301-623.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

The 14th West, 6th West and 1st North areas are shown as Prime Farmland in Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76. Consequently the PHC must consider the effect of undermining on irrigated renewable resource lands.

Findings:

A statement of renewable resource lands has been provided with the application. The Cumulative Hydrologic Impact of mining beneath agricultural lands will be assessed by the Division.

RECOMMENDATIONS:

The application is recommended for incorporation into the Mining and Reclamation Plan.